

U.S. Patent Application Serial No. 10/708,737

Response filed September 29, 2005

Reply to OA dated June 30, 2005

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1 Claim 1 (original): A continuous vacuum carburizing furnace comprising: a heating chamber
2 for heating a workpiece under a atmospheric pressure; a first conditioning chamber in which the
3 pressure is reduced from the atmospheric pressure after the receipt of the workpiece from the heating
4 chamber; a carburizing/diffusing chamber receiving plural workpieces from the first conditioning
5 chamber and conducting plural cycles of carburizing and diffusing processes under the reduced
6 pressure; a second conditioning chamber in which the reduced pressure is returned to the
7 atmospheric pressure after the receipt of the workpiece treated in the carburizing/diffusing chamber;
8 and a cooling chamber for cooling the workpiece introduced from the second conditioning chamber
9 under the atmospheric pressure, the furnace further comprising a door member disposed between a
10 respective adjoining pair of the above chambers, the door member opened/closed only when the
11 workpiece is transported from one chamber to another.

1 Claim 2 (currently amended): The continuous vacuum carburizing furnace as claimed in

2 Claim 1, wherein said door member is disposed between said heating chamber and said first
3 conditioning chamber, wherein said workpiece is subjected to carburization and diffusion in said first

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4 conditioning chamber under the reduced pressure.

1 Claim 3 (currently amended): The continuous vacuum carburizing furnace as claimed in

2 Claim 1, wherein said door member is disposed between said first conditioning chamber and said
3 carburizing/diffusing chamber, wherein said workpiece is subjected to carburization and diffusion
4 in said second conditioning chamber under the reduced pressure.

1 Claim 4 (currently amended): The continuous vacuum carburizing furnace as claimed in

2 Claim 1, wherein said door member is disposed between said carburizing/diffusing chamber and said
3 second conditioning chamber, wherein said workpiece is of a steel material.

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